Fisheries and Oceans Canada | Pêches et Océans Canada
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Quebec Region
Canadian Science Advisory Secretariat
Science Response 2014/022

ADVICE ON AN ACCEPTABLE LEVEL OF GREENLAND HALIBUT CATCHES IN THE GULF OF ST. LAWRENCE FOR THE 2014–2015 FISHING SEASON

Context

In spring 2013, following the stock assessment of Greenland Halibut (*Reinhardtius hippoglossoides*) in the Gulf of St. Lawrence (DFO 2013a) and the advisory committee meeting, Fisheries and Oceans Canada announced that the total allowable catch (TAC) would be 4500 t per year for the 2013–2014 and 2014–2015 fishing seasons.

With this multi-year approach to fisheries management, the Science Sector provides, in interim years, an update on stock status based on pre-determined indicators. Two updates were therefore produced following the 2013 fishing season (DFO 2013b, DFO 2014). Indicators showed a significant decline in the abundance of commercial-size 4RST Greenland Halibut in 2013 which calls into question the recommendations from the 2013 Science Advisory Report. As a result of these updates, Fisheries Management asked the Science Sector for advice on an acceptable level of catches for the 2014–2015 fishing season, meaning the management year from May 15, 2014 to May 14, 2015.

This Science Response Report results from the Science Response Process of March 14, 2014 on advice on an acceptable level of Greenland Halibut catches in the Gulf of St. Lawrence for the 2014–2015 fishing season.

Analysis

The analysis of the request regarding an acceptable level of Greenland Halibut catches is based on the results presented in the update of the main stock status indicators and the update of the commercial fishing indicators, which include the following key elements:

- On January 10, 2014, directed fishery landings of Greenland Halibut were 2 272 t, or 63% of the potential allocation of 3 607 t. The total fishing effort for 2013 was comparable to that of 2012, but the spatial distribution of the effort was much broader.
- The mean catch rate in 4RST in 2013 declined by 43% from 2012. This decline can be observed in the three geographic fishing areas in the Gulf: the western Gulf (-35%), northern Anticosti (-51%) and Esquiman (-56%).
- The biomass index from the DFO survey decreased in 2013. It is close to the mean for the series (1990–2012), but is the lowest value since 2000. The biomass index from the mobile sentinel fisheries program survey has been in constant decline since 2007 and in 2013 dropped to one of the lowest values observed since this survey began.
- The abundance of pre-recruits (40–43 cm) and recruits (> 44 cm) in the DFO survey decreased by 28% and 41%, respectively, compared to 2012. The abundance of fish that will be available to the fishery in 2014 (40 cm and above) has therefore decreased and is now close to the mean.

Data from the research surveys and the commercial fishery therefore show a significant reduction, to a similar extent, in the abundance of commercial-size 4RST Greenland Halibut in

2013. Landings in 2013 declined by 35% from 2012. This decline is comparable to that recorded by stock status indicators, which suggests similar exploitation rates in 2012 and 2013.

The capture and abundance rate values for pre-recruits and recruits estimated in the 2013 DFO survey are comparable to the values observed in the early 2000s. For the same stock status, landings were 2 105 t, 1 280 t and 1 730 t in 2000, 2001 and 2002, respectively, i.e., at least 44% lower than the potential annual allocation for 2013–2014.

The short- and medium-term outlooks for Greenland Halibut abundance depend on, among other things, the abundance of the various cohorts. Juvenile abundance varies considerably from one year to the next and these fluctuations have an impact on the success of the fishery. The year classes expected to contribute to the 2014 fishery are of low or medium abundance. According to the DFO survey, the 2010 cohort, whose abundance was high at one and two years, no longer stands out as much from the mean at three years of age. That cohort will probably not start being recruited to the fishery until 2015 and will be fully recruited by 2016. It is therefore unlikely that the stock status will improve in 2014.

Conclusions

Taking into account the significant declines observed for the various indicators and that the short-term outlook does not suggest that the situation may improve in 2014, it is recommended that the TAC announced for the 2014–2015 season be lowered to reflect the current low abundance. Catches similar to 2013–2014 could maintain also an exploitation rate equivalent to that observed in 2013–2014.

Contributors

Name	Affiliation
Archambault, Diane	DFO, Science, Quebec Region
Bourdages, Hugo	DFO, Science, Quebec Region
Brassard, Claude	DFO, Science, Quebec Region
Castonguay, Martin	DFO, Science, Quebec Region
Cyr, Charley	DFO, Science, Quebec Region
Gauthier, Johanne	DFO, Science, Quebec Region
Lambert, Yvan	DFO, Science, Quebec Region
Sainte-Marie, Bernard	DFO, Science, Quebec Region

Approved by

Serge Gosselin
Director, Demersal and Benthic Science Branch
Quebec Region
Fisheries and Oceans Canada

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Sources of Information

This Science Response Report results from the Science Special Response Process of March 14, 2014 on advice on an acceptable level of Greenland Halibut catches in the Gulf of St. Lawrence for the 2014–2015 fishing season.

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Centre for Science Advice (CSA)
Quebec Region
Fisheries and Oceans Canada
Maurice Lamontagne Institute
P.O. Box 1000
Mont-Joli, Quebec
G5H 3Z4

Telephone: 418-775-0825
Email: bras@dfo-mpo.gc.ca
Internet address: www.dfo-mpo.gc.ca/csas-sccs/

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